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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.      | CONFIRMATION NO.       |
|--|-------------|----------------------|--------------------------|------------------------|
| 10/792,092   | 03/04/2004  | Toni Paila           | 60091.00300              | 4087                   |
| 32294 7590 08/02/2007<br>SQUIRE, SANDERS & DEMPSEY L.L.P.<br>14TH FLOOR<br>8000 TOWERS CRESCENT<br>TYSONS CORNER, VA 22182 |             |                      | EXAMINER<br>CEHIC, KENAN |                        |
|  |             |                      | ART UNIT<br>2609         | PAPER NUMBER           |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/792,092

Applicant(s)

PAILA ET AL.

Examiner

Kenan Cehic

Art Unit

2609

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892) ~
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 07/28/2004.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Specification*

1. The abstract of the disclosure is objected to because of the terms "means" in line 2 of the abstract. Correction is required. See MPEP § 608.01(b).

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

### *Claim Objections*

3. Claim 4 is objected to because of the following informalities:

For claim 4, "the claim limitation "to the receivers" in line 3 is the first occurrence. It is suggested to the applicant to change those terms to --to receivers--.

For claim 4, the claim limitation "the cell" in line 3 is the first occurrence. It is suggested to the applicant to change those terms to --a cell--.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 13 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For claim 13, the claim limitation "the network" in line 11 has not antecedent basis.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1-9, 11, 13-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Farinacci et al. (US 2006/0203819). Hereinafter referred as Farinacci.

For claim 1, Farinacci teaches a method for implementing multicasting (see section 0009 lines 3-10, multicasting is implemented) in IP networks (see Figure 2a and sections 0047

and 0048; packets with IP addresses are used, thus IP network), in which multicast packets (see Figure 2a and section 0016) are transmitted by means of a multicast tree from one transmitter through several multicast controllers (see section 0010, multicast packets are sent using distribution trees through several routers) to several recipients (see Figure 1 and section 0030 line 1-1-0 for multiple recipients in one tree), the method comprising:

generating at least one multicast tree (see section 0011, the setting up of the tree, that is used in the connection establishment of multicast controllers is described) intended for control messages in the network (see section 0011 lines 5-8, a packet with delivery tree information is sent) from a network multicast controller to multicast controllers at cell level (see section 0010 lines 1-12; The SGM source router is the network multicast router, while the router in lines 8-12 are routers down the line are cell level multicast controllers, also note the packet is still a multicast packet ("SGM packet" in line 10)

transmitting control messages from the network multicast controller (see section 0010 lines 1-8, the SGM source router sends a packet with delivery tree information that is used by consequent routers)

along the multicast tree to the multicast controllers at cell level (see section 0010 lines 5-8; the SGM packet is sent down the multicast delivery tree), the control messages containing information on the multicast transmission of the network (see section 0010 lines 2-5, multicast delivery tree information is embedded in the packet) and a command to connect to the multicast tree of the network intended for multicasts (see section 0010 lines 8-12; the lower level router learns from the SGM

indicator, how to transmit the SGM packet (a multicast packet) to the next router, thus connecting to the rest of the multicast tree; here it happens that the multicast trees for multicast messages is one part of the tree for control messages).

For claim 2, Farinacci teaches when connecting to the IP network (see section 0030 starting at line 15 to section 0035 line 3; the router are connecting to the network displayed), the cell-level multicast controller connects to the multicast tree intended for the network control messages (see section 0010 line 8-12; the new next router was connected to the network (the "next router") based on the delivery tree information)

For claim 3, Farinacci teaches wherein after receiving a control message from the network multicast controller (see section 0010 lines 2-12; the SGM router send SGM packet with indicator to next router) through the multicast tree intended for control messages (see section 0010 lines 5-8, the packet with the indicator is sent down the tree to router which are to get the indicator), the cell-level multicast controller connects to the network multicast tree intended for multicasts (see section 0010 lines 8-12; the lower level router learns from the SGM indicator, how to transmit the SGM packet (a multicast packet) to the next router, thus connecting to the intended multicast tree; here it happens that the multicast trees for multicast messages is one part/same instance of the tree for control messages) and defined in the control message (see section 0010 lines 8-12, the router reads the indication signal and connects to rest of multicast tree intended for multicast).

For claim 4, Farinacci teaches wherein after connecting to the network multicast tree intended for multicasts (see section 0010 lines 8-12; the lower level router learns from the SGM indicator, how to transmit the SGM packet (a multicast packet, thus a connection was made) to the next router, thus connecting to the rest of the multicast tree), the cell-level multicast controller transmits the packets it received through the tree to the receivers in the cell (see section 0010 lines 8-16, SGM packets are sent to the end station).

For claim 5, Farinacci teaches wherein information on the identifier of one or more multicast groups (see section 0010 lines 2-6; indicator about the delivery tree information of a multicast group is embedded) is included in the control messages (see section 0010 lines 2-6; indicator is embedded into the SGM packet).

For claim 6, Farinacci teaches wherein information on the time of validity of the control message (see section 0060 and Figure 2b, reference "TTL"; the SGM packet header includes a time to live field which tells the IP network for how long the packet is to stay alive until it is discarded) is included in the control messages (see Figure 2b, the header is part of the SGM packet described in section 0010).

For claim 7, Farinacci teaches wherein information on sender authentication (see section 0048 and Figure 2a; senders IP address is embedded in a multicast packet (such like a SGM packet), the receiver can thus check if it is receiving data from the intended source) is included in the control messages (see section 0048 and Figure 2a; senders IP address is embedded in a multicast packet (such like a SGM packet)).

For claim 8, Farinacci teaches wherein a receiver filter is included in the control messages (see section 0010 lines 2-5 and lines 12-16; the delivery tree information is embedded into the SGM packet, according to which the *intended* station is reached, thus filtering receivers out).

For claim 9, Farinacci teaches wherein after receiving a control message from the network multicast controller (see section 0010 lines 8-12; the lower level router receives and reads indication signal), the cell-level multicast controller registers as a recipient of the multicast defined in the control message (see section 0010 lines 8-12, the next router that receives the indication and registers the new next router as recipient of multicast).

For claim 11, Farinacci teaches wherein after receiving a control message from the network multicast controller through the multicast tree intended for control messages (see section 0010 lines 8-14; SGM packet with indicator travels down the multicast tree), the cell-level multicast controller notifies the recipients of its cell that a multicast must be received (see section 0010 lines 12-16; the final router submits the original multicast packet to end station without permission, thus the original multicast packet had to be received).

For claim 13, Farinacci teaches An arrangement (see Figure 1 and section 0030) for implementing multicasting (see section 0009 lines 3-10, multicasting is implemented) in IP networks networks (see Figure 2a and sections 0047 and 0048; packets with IP addresses are used, thus IP network) that comprises a number of routers (see Figure 1, references R1-R9) transmitting messages of the different components in the network to



each other (see section 0010 lines 21, different routers are transmitting packets to each other) at least one multicast transmitter (see section 0010 lines 1-8, source end station and source router transmit multicast packet) that is arranged to transmit multicast packets through a multicast tree to several receivers (see section 0010 lines 5-16), a number of cell-level multicast controllers that are arranged (see section 0010 lines 5-12) to transmit packets to receivers (see section 0011 lines 17-22, multicast packets are sent down the delivery tree, see section 0010 lines 12-16 for end station), a network multicast controller (see section 0010 lines 2-5, see SGM source router) that is arranged to control the cell-level multicast controllers (see section 0010 lines 8-12, the downstream router operate according to the SGM indicator embedded by the source router) , wherein the network comprises at least one multicast tree level (see section 0010 lines 5-8; the SGM packet is sent down the multicast delivery tree) intended for control messages (see section 0010 lines 5-12, SGM packet indicator is sent along the multicast tree) from the network multicast controller to the cell-level multicast controllers (see section 0010 lines 2-12, the SGM indicator travels down the tree), the network multicast controller is arranged to transmit control messages along the multicast tree to the cell-level multicast controllers (see section 0010 lines 2-12, the SGM source router, is arranged the send the SGM indicator down the downstream routers) and the control messages contain information on the multicast transmission of the network (see section 0010 lines 2-5, the SGM packet contains the delivery tree information) and a command to connect to the multicast tree of the network intended for multicast transmissions (see section 0010 lines 8-12; the lower level router learns from the SGM indicator, how to transmit the SGM packet (a multicast

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packet) to the next router, thus connecting to the rest of the multicast tree; here it happens that the multicast trees for multicast messages is one part of the tree for control messages).

For claim 14, wherein the cell-level multicast controller is arranged to connect to the multicast tree intended for network control messages (see section 0010 line 8-12; the new next router was connected to the network (the "next router") based on the delivery tree information) when connecting to the IP network (see section 0030 starting at line 15 to section 0035 line 3; the router are connecting to the network displayed).

For claim 15, Farinacci teaches herein the cell-level multicast controller is arranged to connect to the multicast tree of the network intended for multicasts transmissions (see section 0010 lines 8-12; the lower level router learns from the SGM indicator, how to transmit the SGM packet (a multicast packet) to the next router, thus connecting to the rest of the multicast tree; here it happens that the multicast trees for multicast messages is one part of the tree for control messages) after having received a control message (see section 0010 lines 8-12, "next router" gets the indicator signal) from the network multicast controller (see section 0010 lines 2-5, see SGM source router) through the multicast tree intended for control messages (see section 0010 line 2-12, the SGM indicator is sent down the tree).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Farinacci et al. (US 2006/0203819) in view of Chang et al. (US 2002/0102967 A1).

For claim 10, Farinacci teaches all the claimed invention as described in paragraph 6.

Additionally Farinacci teaches the network multicast controller (see section 0010 lines 2-5, see SGM source router). However, Farinacci does not teach that the recipients of the cell are made aware that multicast is available. Chang et al. from the same or similar field of endeavor teaches notifying the recipients of its cell that a multicast is available (see

section 0009 lines 1-5). Thus it would have been obvious to a person of ordinary skill at the time the invention was made to combine the multicast availability feature as taught by Harris into the multicast capable routers as taught by Farinacci. One could have implemented the delivery of the service ID pool via a server, just like Chang et al. teaches, which would be connected to one of the multicast routers as taught by Farinacci, or one could implement a microprocessor into the routers that perform this task. The motivation is that it can be determined which multicast the user might be interested based on the user's profile.

12. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Farinacci et al. (US 2006/0203819) in view of Dean et al. (US 2003/0061333 A1)

For claim 12, Farinacci teaches all the claimed invention as described in paragraph 6.

Additionally, Farinacci teaches wherein after receiving a control message (see section 0010 lines 8-12) from the network multicast controller (see section 0010 lines 2-8, SGM source router sends the packet with tree information) through the multicast tree intended for control messages (see section 0010 lines 2-16, the packet with tree information is sent down the a tree of routers),

Farinacci does not teach not process the message regarding multicast transmission. Dean et al. from the same or similar field of endeavor teaches that a device does not process the message regarding multicast (see section 0051 lines 6-9 of Dean et al.). Thus it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the method of disregarding messages about multicast into the communication system as taught by Farinacci. One could have implemented a similar

transaction ID as taught by Dean et al. into one of the routers as taught by Farinacci. This could have been done with either implementing a processor in the router or connecting a computer to the router which can accomplish the processing of the transaction ID. The motivation is that once the user has received advertisement from the same vendor/transaction ID, the advertisement is not repeated to the user again.

### *Conclusion*

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

|                    |         |                          |         |
|--------------------|---------|--------------------------|---------|
| US-2003/0169708 A1 | 09-2003 | Harris, John M.          | 370/335 |
| US-2005/0108419 A1 | 05-2005 | Eubanks, Thomas Marshall | 709/232 |
| US-6,999,465 B2    | 02-2006 | McDonald et al.          | 370/432 |
| US-2007/0028002 A1 | 02-2007 | McCanne, Steven          | 709/238 |

The above are recited to show methods and systems for multicasting.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenan Cehic whose telephone number is (571) 270-3120. The examiner can normally be reached on Monday through Friday 7:30AM to 5:00PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dang Ton can be reached on (571) 272-3171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KC

  
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SUPERVISORY PATENT EXAMINER